

Appendix 2. Revised Biology 352 Research Project Assignment, 2006

Important Dates:

- 1. February 20th: Preliminary list of two possible topics due.**

During this class we will meet in the Library Instruction Lab (Library - 2nd floor). A librarian will introduce you to several research tools that access primary scientific literature. In preparation for this session you will:

 - Bring *at least two* possible topic ideas with you to this class. For more guidance on acceptable research topics, see “General Description” below.
 - Familiarize yourself with the Bio 352 library course page. Go to the library’s homepage (<http://library.cord.edu/>) and click on the “Course Resources” link.
- 2. March 8th (or sooner): Research paper proposal due.**

For this project you may write either an *informative* or *argumentative* paper. Your research proposal should:

 - Be at least 500 words in length,
 - Indicate which type of paper you will write (informative vs. argumentative),
 - Include a specific topic sentence, a brief explanation of the relevant immunology or parasitology issues you will write about and a preliminary description of your research strategy. *See below for more information.*
- 3. March 20th: (or sooner): Annotated bibliography due.**

This bibliography should consist of at least *eight* citations with detailed annotations. You must include at least one Reference source and *three primary research articles published within the last five years*. The remainder of your bibliography may reference secondary sources such as review articles, media sources, or Internet sites. *See below.*
- 4. April 5th: Final paper due.**

General Description:

This research project should focus on a topic of special interest to you within the fields of either Immunology or Parasitology (or Immunoparasitology, a sub-field of its own). You may choose to write either an *informative* or an *argumentative* paper.

- The purpose of an **informative paper** is to present information in an organized and coherent fashion, but *without expressing an opinion* about the information.
- The purpose of an **argumentative paper** is to take a body of information and suggest a particular way of organizing, understanding and interpreting that information. *You are expressing a judgment (position) backed up by evidence,*

not merely your opinion.

This paper should concentrate on an issue from within Immunology, Parasitology or Immunoparasitology for which *current research* (within the last 5 years) is available. I expect the paper to be about 10-12 pages long and to reference *at least three primary scientific research articles* published **within the last five years**. You are also welcome to use additional review articles, media sources, and limited Internet sites, but these are distinct from primary scientific literature, which is found only in scientific journals. Consider your colleagues in this class the audience for your paper. Therefore, you are writing for someone who is educated on general topics in immunology or parasitology, not an expert. You will in most cases need to include some introductory material to bring your audience up to speed on your chosen topic before introducing more advanced material on your topic.

Source Documentation

I would like this project to give you practical experience using “real world” scientific citation styles. Therefore, you must document your sources using an approved documentation style as found in an actual scientific journal. To do so, go to one of the following sites:

1. *Journal of Immunology*
<http://www.jimmunol.org/misc/authorfulllength.shtml>
(See: “Manuscript Preparation: Format For References” and “Style Guide”)
2. *Molecular and Biochemical Parasitology*
http://www.elsevier.com/wps/find/journaldescription.cws_home/506086/authorinstructions
(See: “References”)

Chose ONE of the above two style formats to document your sources and be consistent. You will use this style for the research paper and your annotated bibliography (see below).

Research Paper Proposal:

When selecting a topic for this paper, it is usually a good idea to be as specific as possible. Broad topics within these fields (e.g. “AIDS,” “Worm Parasites,” “West Nile Virus,” etc.) will result in too much information for a focused paper. Rather, frame your paper around answering a specific question. For example, “What does recent research about West African sleeping sickness tell us about the effectiveness of current treatments for this illness?” or “Will providing free antiretroviral drugs improve the situation in Africa for women suffering from HIV?” Feel free to talk with me further about potential topics.

The following dates are designed as a way to start you thinking about your paper and investigating research literature on a topic. On **February 20th**, we will meet with a librarian in the library to begin working with potential topics. *Please bring a short list of*

at least two topic ideas that you would like to explore further to this class. For **March 8th**, (or sooner if you wish) you will hand in a brief research proposal. This description should be at least 500 words and provide an overview of what you hope your paper will accomplish. Please include:

- Write a specific topic sentence. What is the purpose of your paper?
- What type of paper will you write? (informative or argumentative)
- Why do you want to write a paper about this topic?
- What do you already know about your topic? What more do you need to learn about your topic in order to write a well-informed paper?
- Provide a preliminary outline of your library research strategy. Which databases will you use? What keywords or phrases will you try? What challenges might you encounter?

Annotated Bibliography:

An annotated bibliography of *at least* 8 sources is required for this project by **March 20th**. An annotated bibliography is a list of citations to articles. Each citation is followed by a brief (usually about 150 words) descriptive and evaluative paragraph; the annotation. The purpose of the annotation is to inform the reader of the relevance, accuracy and quality of the sources cited.

Each annotation should include as many of the following criteria as possible:

- Evaluate the authority or background of the author
- Comment on the intended audience
- Compare or contrast this work with another you have cited
- Explain how this work illuminates your research topic
- Mention bibliographies, charts, graphs, statistics or illustrations that are pertinent
- Discuss the writing style of the author
- Comment on any bias or point of view shown in the work

Important: If you use an electronic database to locate materials for your annotated bibliography, remember that *copying and pasting or even rephrasing the abstracts provided by the database is plagiarism*. Electronic databases are covered by copyright law and therefore, using database entries to create annotations without actually **READING** the article they refer you to is highly unethical. Students who submit plagiarized annotated bibliographies will receive at least a 50% reduction in their grade and possibly no credit (a zero) for this assignment.

The following example uses the approved *Molecular and Biochemical Parasitology* format.

Goldschneider FK, Waite LJ, Witsberger C. Nonfamily living and the erosion of traditional family orientations among young adults. *Am Soc Rev* 1986;51:541-554.

The authors, researchers at the Rand Corporation and Brown University, use data from the National Longitudinal Surveys of Young Women and young Men to test their hypothesis that non-family living by young adults alters their attitudes, values, plans, and expectations, moving them away from their belief in traditional sex roles. They find their hypothesis strongly supported in young females, while the effects were fewer in studies of young males. Increasing the time away from parents before marrying increased individualism, self-sufficiency and changes in attitudes about families. In contrast, an earlier study by Williams cited below shows no significant gender differences in sex role attitudes as a result of non-family living.

Also included in this handout are **examples of excellent annotated bibliographies** from past classes, included with permission from their authors (former immuno/parasit. students).

Final Paper Due: April 5th